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The Role of Social Support in First-Term Sailors' Attrition from Recruit Training

Jeffrey W. Lucas
Yuko Whitestone
David R. Segal
Mady W. Segal
University of Maryland

Michael A. White, Ph.D.
Jacqueline A. Mottern, Ph.D.
Rorie N. Harris, Ph.D.
Navy Personnel Research, Studies, and Technology

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Reviewed, Approved, and Released by
David L. Alderton, Ph.D.
Director

Navy Personnel Research, Studies, and Technology (NPRST/BUPERS-1)
Bureau of Naval Personnel
5720 Integrity Drive
Millington, TN 38055-1000
www.nprst.navy.mil

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Jeffrey W. Lucas, Yuko Whitestone, David R. Segal, Mady W. Segal, Michael A. White, Ph.D., Jacqueline A. Mottern, Ph.D., Rorie N. Harris, Ph.D.

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Historically, the Navy enlists about 35,000 to 50,000 new recruits each year; and between 2002 and 2005 experienced first term attrition rates of about 25-30%. The First Watch project was designed to track cohorts of Navy recruits through their first term to determine the "root causes" of first term attrition . The present study examined the influence of social support and social undermining on attrition in general, and during Navy recruit training (RTC), in particular. The professional literature showed a complicated, but definite, association between social support and organizational attrition. Examination of First Watch data on social support in RTC showed significant positive associations between social support from family and the Recruit Division Commanders (RDC) and graduation from RTC, but negative associations were found between RTC graduation and support from friends and fellow recruits. Surprisingly, both RTC graduates and attrites reported social undermining from fellow recruits, but perceived social undermining from RDCs, family, friends, and fellow recruits were significantly predictive of attrition in RTC.

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Foreword

This report is a product of the Navy's First Watch on the First Term of Enlistment (First Watch) research project. First Watch is a longitudinal project that assessed cohorts of Navy recruits at key points during their first term of enlistment (typically their first 4 years in the Navy), to determine the core reasons for first term enlisted attrition. Questionnaires were administered: (1) on the first day of recruit training, (2) at the end of recruit training, (3) at the end of Apprentice or "A" School training, (4) when a recruit/Sailor left the Navy during training, and (5) after the Sailor has spent at least one year in his/her job in the fleet.

This project is an important component of our research program to overhaul and improve the Navy's enlisted selection and classification process. The program is designed to replace the current classification algorithm with a more flexible and accurate one, de-emphasize the almost exclusive focus on mental ability by including personality and interest measures in making classification decisions, and better understanding the sources of attrition in the "Sailorization" process. Collectively, these efforts would transform and modernize enlisted classification by making it applicant-centric while improving job satisfaction and performance, reducing attrition, and increasing continuation behavior.

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David L. Alderton, Ph.D.
Director

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Introduction

All organizations face problems with retention and attrition. The U.S. Navy is no exception. Historically, the U.S. Navy enlists approximately 35,000 to 50,000 individuals annually; and between 2000 and 2005, experienced attrition rates of approximately 25–30 percent for first-term enlistment (usually a 4-year obligation) (Chief of Naval Operations, Public Affairs Office, 2002; Government Accountability Office, 2000; Golfin, 2005; Harris, White, Mottern, & Eshwar, 2007).

When recruits fail to complete their obligation (i.e., attrite), the Navy suffers monetary losses associated with the costs incurred in recruiting and training them; these costs are compounded by those needed to replace that person. Beyond these monetary costs, there are less direct costs associated with first-term attrition, including fleet instability, reduced readiness, lower morale, and excessive burden on remaining personnel. Moreover, when the attrite returns home, he or she may carry a negative message about the Navy that may reduce future enlistment propensity, further elevating the cost of subsequent recruiting.

First Watch was designed by Navy researchers at the Navy Personnel Research, Studies, and Technology (NPRST) department as a comprehensive assessment of recruits'/Sailors' background and demographics, their recruitment, classification and reclassification, as well as training and fleet experiences throughout their first term. The project's primary objectives are to identify and understand the root causes of, and to reduce, unwanted attrition and improve retention during the first term.

Method

First Watch researchers constructed five questionnaires. Each of the five questionnaires was designed to examine a recruit or Sailor's perceptions about him or herself and the Navy at key points during the first four years in the Navy. These questionnaires contain motivational, personal, and experiential information relevant to five different points in a Sailor's first term. These five points and their associated surveys are: (1) immediately before the beginning of the recruit's initial training at Recruit Training Command (RTC), Great Lakes (New Sailor Survey); (2) at the end of recruit training (RTC Graduate Survey); (3) at the end of "A"/Apprentice School, where Sailors are trained for their military job ("A" School Survey); (4) whenever a student leaves the Navy from recruit training or "A" School (Exit Survey); and (5) after the Sailor has been in the Fleet for at least one year (Fleet Survey).

There are several iterations of these surveys and each version represents a different cohort of recruits. While there are common items in these surveys across iterations, there are substantial differences as well. In the first iteration of First Watch instruments, several items in the New Sailor and RTC Graduate Surveys noted that social support may be an important component to graduating from RTC. However, these measures were only suggestive, and more precise measures of social support were designed for subsequent iterations of First Watch surveys.

This report presents the results of the influence of social support on attrition during recruit training, with the project's second iteration of research instruments. These instruments were administered to the second recruit cohort that entered the Recruit Training Command, Great Lakes, between July 2003 and May 2005. This cohort (approximately 39,000 individuals) serves as the basis for this report. The data reported in this report comes from the New Sailor and RTC Graduate and Exit surveys.[1]

Purpose

The purpose of this report is to examine the concepts of social support, examine the relationship between social support and turnover or attrition at RTC using First Watch data, as well as the conclusions that may be drawn from them, and to discuss potential intervention strategies to increase social support for Navy recruits in RTC.

Background

The accumulated research literature on social support indicates that it almost certainly has some form of relationship with turnover. The nature, and perhaps even the direction, of that relationship, however, remains unclear.

Much of the difficulty in specifying a relationship between social support and turnover lies in the conceptual ambiguity in treatments of social support. The concept has an intuitive appeal when considering aspects of well-being in human social relationships. As a result, it has drawn research interest from scholars crossing multiple disciplines. At the same time, the meanings of the concept of social support have multiplied through use to the point of making it difficult to determine just what it means. Turner and Turner (1999) note that the domain of work on social support has expanded to the point that the concept has captured virtually every aspect of human relations and interactions.

Social Support

In the broadest sense, social support refers to relationships with others (*social*) that are helpful (*support*) to individuals in some way. Beyond this general notion, definitions of social support vary widely. Moreover, research operationalizations of the concept tap into fundamentally different social processes. For this reason, we discuss the social support literature in two parts, distinguishing how it is conceptualized from how it is measured.

[1] Contact nprstpao@navy.mil for copies of these surveys.

What is Social Support?

Social support has received attention from scholars in multiple disciplines, with the only element tying together diverse treatments being a focus on human relationships. Moreover, diverse perspectives agree that social support can be drawn from multiple sources, including networks of friends, family, supervisors, coworkers, neighbors, and voluntary associations (Pearlin & Schooler, 1978). Beyond these commonalities, definitions of social support vary widely. As far back as the 1980s, scholars noted wide diversity in treatments of social support (Rook 1986; Gottlieb, 1983; Heller & Swindle, 1983; House, Landis, & Umberson, 1988; Turner, Frankle, & Levine, 1983). As Turner and Turner (1999) point out, "Social support has been used to an ever-widening domain of content that seems almost coextensive with the structural aspects of all human relationships and interactions" (p. 302).

The most well-cited conceptualization of social support is that of Cobb (1976), who treated social support as information leading persons to believe that they (1) are cared for and loved, (2) are esteemed and valued, and (3) belong to networks of communication and mutual obligation. Following Cobb's lead, many scholars separate social support into various dimensions.

Vaux (1988) argues that social support is best viewed as a meta-construct comprised of several legitimate and distinguishable theoretical constructs. To this end, a number of scholars have disaggregated social support into various elements. Perhaps the best known of these distinctions comes from House (1981), who identified four forms of social support: emotional, appraisal, informational, and instrumental. Emotional support is care giving or affective concern; appraisal support is affirmation or evaluative feedback; informational support includes suggestions or directives; and instrumental support is aid or environmental modification to assist in the completion of tasks.

Treatments that separate social support into various elements include Barrera (1986), who distinguished between social embeddedness (the connection individuals have to significant others), enacted support (actions that others perform in rendering assistance), and perceived social support. Similarly, Cobb (1979) argued that the importance of distinguishing social support from support that is instrumental (counseling, assistance), active (mothering), or material (providing goods and/or services). And, Turner and Turner (1999), after reviewing the literature, summarized the various dimensions of social support into the following three categories: perceived support (emotional support), structural support, and received support (supportive behavior). Emotional support refers to behaviors that provide caring, love, empathy, and trust (Cobb 1976; Pattison, 1977). It is also referred to as expressive support. When individuals feel other people are supportive of them, they tend to perceive it as emotional support (House, 1981). Structural support is the extent of network embeddedness or the degree of social isolation in an individual's social network (Thoits, 1995). Received support is help that is extended in providing either instrumental or informational assistance (Turner & Turner, 1999).

Other scholars have opted for more straightforward conceptualizations of social support. Price (1997), in the *Handbook of Organizational Measurement*, defines social support as simply "helping relationships regarding work-related matters." In Price's view, social support overlaps considerably with the concept of trust. Similarly, Sarason, Levine, Basham, and Sarason (1983) define social support as the existence or availability of people on whom we can rely. Other definitions focus on reassurances to help a person feel better about a situation (Schaefer, Coyne, & Lazarus, 1981), information that one is esteemed and cared for (Taylor, 1986), help with job-related problems (Price, 2001), and coping assistance (Thoits, 1986).

A review of definitions of social support allows for two conservative conclusions. First, social support refers to relationships with others that help an individual in some way, particularly in stressful situations. Second, a comprehensive definition of social support should include at least three elements: (1) emotional support, which includes reassurances that an individual is esteemed and cared for; (2) instrumental support, which is task focused-support of an individual's instrumental striving, such as guidance in problem-solving and learning tasks (Folkman & Lazarus, 1980); and (3) structural sources of support, such as the number of ties in an individual's network. These distinctions are important because different elements of support may play more primary roles at different times. Individuals, for example, might first seek emotional support to alleviate distress and then instrumental support to help surmount the challenges presented by the event (Cantor & Harlow, 1994).

The Buffering Hypothesis

A major focus of research in the social support literature has been on what is termed "the buffering hypothesis." According to this hypothesis, social support affects the extent to which individuals appraise situations as stressful. In this view, social support helps persons appraise a stressful situation as less threatening and provides a buffer against the negative consequences of the stressor (Lazarus & Folkman, 1984). Put simply, the buffering hypothesis holds that the primary benefits of social support are to be found when individuals are confronted with stressful circumstances (Wethington & Kessler, 1986).

Research on the buffering hypothesis has produced mixed results. Henderson (1992) carried out a meta-analysis of 35 studies on social support and psychological distress. He found that the absence of available support makes individuals vulnerable to mental health problems regardless of stress level. Other research has found that social support does buffer the effects of stressful events, allowing individuals to reevaluate stressful situations in positive ways (Thoits 1986; Turner, 1981). After reviewing the literature, Turner and Turner (1999) conclude that the accumulated evidence suggests that social support helps at all times but especially when levels of stress exposure are particularly high.

Subjective Versus Objective Social Support

As noted, the most cited definition of social support is that of Cobb (1976), who defined it as individuals believing that they are cared for, esteemed, and belong to social networks. Cobb's conceptualization of social support is an exclusively subjective experience of feeling valued by and connected to others. In another classic treatment, House (1981) also emphasized the significance of perceived support in the provision of effective social support. Similarly, Schaefer, Coyne, & Lazarus (1981) define social support in terms of an individual's perceptions that she or he is supported.

In contrast, some researchers emphasize the objective aspect of social support. Objective support is the observable or measurable provision of support. From this perspective, Kahn and Antonucci (1980) define social support as “objective interpersonal transactions,” including the provision of affection (expressions of liking, respect, or love), affirmation (expressions of agreement or acknowledgement of the appropriateness of another's actions), or aid (money, material goods, information, time, entitlements).

The distinction between subjective and objective support is crucial to understanding the functions and outcomes of social support in coping with stress (House, 1981; Rook, 1986). The extent of effectiveness of social support does not parallel the amount of social support provided. Effectiveness may vary, for example, depending upon whether the support provided is what is needed. The “matching hypothesis” assumes that social support buffers stress only when there is a match between one's needs and what one receives from others (Cohen & McKay, 1984; Cohen & Wills, 1985). Because each person has unique expectations of support, individuals may feel unsupported when they receive well-intentioned but unwanted support. Additionally, some support behaviors may reduce stress even when the individual does not perceive them as helpful. Thus, it is difficult for researchers to conduct subjective assessments for each act of supportive behavior. In addition, social desirability, self-presentation biases, and personality variables can affect subjective assessments of social support (Rook, 1986). In general, research finds that the perceived availability of support plays at least as important a role as received support in helping individuals manage stress (Schaefer Coyne, & Lazarus, 1981; Turner & Turner, 1999).

How is Social Support Measured?

There are a number of measures available to assess social support, and the concept has been measured in widely divergent ways. Some measures are single dimensional scales on subjective social support (Seeman & Berkman, 1988; Hobfoll & Leiberman, 1987). Others are indices and questionnaires that separate and measure distinct dimensions of social support (Sarason et al., 1983; Henderson, 1981; Vaux & Harrison, 1985; Cutrona & Russell, 1987). Although exceptions exist (e.g., Cramer, Henderson, & Scott, 1997), researchers measuring social support overwhelmingly use perceptions of social support received as a proxy for actual social support, with the actual measurement of social support advanced little beyond small numbers of items asking respondents the extent to which they feel supported.

Overview of Social Support

Social support is a multifaceted construct with a number of distinct elements. Unfortunately, there is little consensus on what these elements are, and empirical research generally fails to distinguish the elements of social support in operationalizations. A review of work on the concept allows for the following conclusions:

- Social support refers to helping relationships.
- Sources of social support include supervisors, coworkers, and informal networks (e.g., family and friends).
- Different aspects of social support include emotional support, instrumental support, and structural support.
- Social support is particularly helpful to individuals in situations of high stress.
- In their conceptualizations and measurements, researchers generally focus on perceptions of social support rather than the actual social support received.

The Relationship Between Social Support and Turnover

The most common dependent measure in studies of social support is some form of mental health outcome, such as psychological distress. There does exist, however, a large body of research that assesses the effects of social support on organizational turnover. In this section, we discuss the concept of turnover, summarize the research findings on the relationship between social support and turnover, discuss turnover research that addresses nuanced aspects of social support, present findings on the effect of social support on relevant dependent variables other than turnover, and discuss the particular importance of social support early in organizational membership.

Turnover/Retention/Attrition

Turnover, in the broadest sense, refers to movement across organizational boundaries (Price, 2001). Thus, any individual movement into or out of an organization, for any reason, reflects turnover. The abstractness of this definition leaves several issues to be more clearly conceptualized for any scholar carrying out turnover research. These include:

- **Movement into versus movement out of the organization.** Although turnover refers to both entrances into and exits from an organization, research overwhelmingly focuses on exits.
- **Functional versus dysfunctional turnover.** Some level of turnover is functional in virtually all organizations. Most research, however, focuses on exits from organizations and assumes that these exits are dysfunctional.
- **Voluntary versus involuntary turnover.** Exits from an organization may be voluntary (e.g., quits) or involuntary (e.g., firings). Turnover research almost exclusively focuses on voluntary rather than involuntary turnover.

- **Intent to turnover versus turnover.** Most research on turnover is not longitudinal and cannot assess actual turnover. For this reason, research typically uses intent to leave as a proxy for turnover.

Most research on turnover, then, focuses on a narrow aspect of the concept: Intent to leave voluntarily as a measure of dysfunctional turnover (Price & Mueller, 1981). Other organizational concepts tap into processes similar to turnover. Examples are attrition (movement out of an organization) and retention (keeping members in an organization). Although clearly conceptually distinct from turnover (Jayaratne & Chess, 1984), the concept of burnout—emotional and/or physical exhaustion resulting from prolonged exposure to stress—also overlaps with turnover.

To avoid unnecessary complexity, we present results on the effects of social support on turnover, retention, and attrition as producing the same outcomes. In general, measures of these items reflect individuals' intentions to leave an organization, and we note when dependent measures meaningfully differ from this classification.

General Findings

Although not always the case, research generally finds negative relationships between social support and turnover (e.g., higher social support is accompanied by lower turnover). These findings hold across multiple institutional contexts and with diverse operationalizations of social support. Among the types of employment in which researchers have found a negative relationship between social support and turnover are human service workers (Alexander, Lichtenstein, Oh, & Ullman, 1998; Blankertz & Robinson, 1997; Jinnett & Alexander, 1999; Koeske & Kirk, 1995; Siefert et al., 1991; Schaefer & Moos, 1996), bank employees (Houkes, Janssen, De Jonge, & Nijhuis, 2001), hospital employees (Kramer & Schmalenberg, 1991), nurses (Fang & Baba, 1993; Fisher 1985; Tai, Bame, & Robinson, 1998; Pisarski et al., 1998), police officers (Biggam & Power, 1997; Brough & Frame, 2004; Evans, Coman, Stanley, & Burrows, 1990), employees in Big 5 accounting firms (Barker, Monks, & Buckley, 1999), teachers (Chan, 2002), postal workers (Eisenberger, Armeli, Exwinkel, Lynch, & Rhoades,2001; Sadu, Cooper, & Allison, 1989), and sports coaches (Cunningham, Sagas, & Ashley, 2001; Sagas, Cunningham, & Ashley, 2000).

Investigations finding negative relationships between social support and turnover (i.e., positive relationships between social support and retention) reflect a number of different methods of measuring social support. Although perceptions of supervisory and/or coworker support are the most common measure (e.g., Alexander et al., 1998; Fisher 1985; Glass & Estes, 1996; Glass & Riley, 1998; Houkes et al., 2001; Houkes, Janssen, Jonge, & Baker, 2003; Janssen, De Jonge, & Baker, 1999; Jayaratne & Chess, 1984; Sheridan, 1985), other measures of social support also find negative relationships with turnover. These measures include career development and mentoring (Barker et al., 1999), perceptions of interactions with managers (Hart & Moore, 1989), general work environment factors (Kramer & Schmalenberg, 1991), conflict with supervisors (McFadden & Demetriou, 1993), career opportunities (Stremmel, 1991), and support from family and friends (Tai, 1996).

Barak, Nissly, and Levin (2001) carried out a meta-analysis of turnover research and concluded that social support (treated as support from coworkers or supervisors) is one of the strongest (negative) predictors of turnover or intent to leave. Similarly, Tai et al. (1998) reviewed research on nursing turnover and concluded that social support is an important predictor of turnover. As with the Barak et al. meta-analysis, Tai et al. focused on support from those in the work environment, finding only one study among the 36 they reviewed that attended to social support from family or friends.

Much research, then, suggests a direct negative relationship between social support and turnover. Some research, however, has found only indirect effects or no effects at all. Brough and Frame (2004), for example, found an indirect effect of social support on turnover through job satisfaction. Allen (2006) found that social support affected turnover through embeddedness. Janssen et al. (1999) found that social support predicted emotional exhaustion and not turnover, but that emotional exhaustion predicted turnover. Other research (e.g., Rahim & Psenicka, 1996) has found no effects for social support on turnover.

Longitudinal research is particularly valuable because it can measure actual turnover rather than turnover intentions. Unfortunately, few studies have longitudinally examined the relationship between social support and turnover. One such study, carried out by Fisher (1985), found that social support from peers and supervisors among nurses had a negative relationship with turnover. Another, conducted by Houkes et al. (2003), found that perceived support affected turnover intentions at Time 1, but that these perceptions did not affect actual turnover at Time 2.

Findings by Sources of Support

Sources of social support can include coworkers, supervisors, and informal networks (family, friends, and voluntary associations). Most research on social support and turnover focuses on support from coworkers and or supervisors, with few studies examining support from family and friends (Tai, Bame, & Robinson, 1998). Also, studies that measure more than one source of support typically aggregate the measures together into one social support construct. As a result, there is little research on how different sources of support may have different effects on turnover.

However, a few studies have examined different sources of support. Some researchers have found no differences in their effects on turnover (e.g., Buunk, 1990; Cohen & Wills, 1985), more commonly, however, researchers find that effects vary by source of support (e.g., Seers, McGee, Serey, & Giraen, 1983). Gaertner (1999), for example, found broader effects for supervisory support than for coworker support. Ganter, Fusilier, and Mayes (1986) had distinct measures for support from supervisors, coworkers, family, and friends. With workplace strain as their outcome variable, the researchers found a strong effect for supervisor support, a moderate effect for coworker support, and no effects for support from family and friends. Munn, Barber, and Fritz (1996) carried out one of the most comprehensive studies in the literature on social support and turnover. Using the Caplan Social Support Instrument (Caplan, Cobb, French, Harrison, & Pinneau, 1975; see Abraham 1999 for an example of research using

the instrument), they measured social support from immediate supervisors, coworkers, family, and friends among child welfare workers. Among these sources, they found effects on turnover only for supervisory support.

Although research is limited on the effects of different sources of support, it generally indicates that supervisory support is particularly important in affecting turnover. However, more research is clearly necessary on the roles of support from informal networks on turnover intentions.

Findings by Types of Support

As discussed, various scholars have disaggregated the concept of social support into various elements. These sorts of distinctions are much more common in studies of social support and mental health outcomes than in studies of social support and turnover. Most turnover studies that include social support as a predictor variable have simple items that tap into perceived emotional support. There are, however, a few exceptions, and these exceptions generally indicate that a distinction between types of support is important in determining the relationship between social support and turnover.

Research on types of social support has found that different forms of support may be more or less needed at different stages while an individual confronts difficult life situations (Wagner, Williams, & Long, 1990). Cantor and Harlow (1994), for example, propose that individuals first seek emotional support to alleviate distress related to some event and then instrumental support to help surmount challenges presented by the event. Research has also found different effects for different types of support. Himle, Jayaratne, and Thyness (1989), for instance, found that perceived emotional support buffered turnover intentions but found no effects for appraisal, instrumental, or informational support. Highlighting the distinctive functions of different types of social support in the stress process, Norris and Kaniasty (1996) found a negative effect of perceived support on psychological distress, but that the effect was moderated by actual support received.

In general, research particularly identifies the importance of perceived emotional support in negatively affecting turnover (e.g., Ford, 1985). For example, Helmer and McKnight (1989) found supervisors who would listen and a supportive administration were ranked highest by nurses.

Findings with Related Dependent Variables

There are organizational outcomes other than turnover that social support has been found to influence in a positive manner. These include commitment (Abraham, 1999), general well-being (Cohen & Syme, 1985; Kessler & McLeod, 1985; Turner, 1983; Wallston, Smith, King, Forsberg, Wallston, & Nagy, 1983), job satisfaction (Ford, 1985; Schaubroeck, Cotton, & Jennings, 1989), general organizational outcomes (Glass & Estes, 1997), burnout (Davis-Sacks, Jayaratne, & Chess, 1985; Lee & Ashforth, 1996; Leiter, 1993; Schaufeli, 1990), work strains (Kaufmann & Beehr, 1986), work pressure (Chappell & Novak, 1992), and emotional exhaustion (Hobfoll & Freedy, 1993; Lee & Ashforth, 1993; Leiter & Meechan, 1986; Winnubst, 1993). The accumulated evidence, then, clearly indicates a role for social support in producing various positive outcomes for individuals in organizational settings.

The Particular Importance of Support Early in the Socialization Process

Although few treatments of social support and turnover explicitly address the effects of turnover at different stages in organizational careers, a clear theme that emerges from the research literature is that social support may be particularly important for organizational newcomers. Munn, Barber, and Fritz (1996), for example, found effects for only supervisory support on turnover among various types of support and that the effect was especially strong for individuals who had been in the field for less than five years.

Evidence describing the need for social support early in the socialization process does indicate that newcomers are particularly likely to seek out social support (Feldman & Bret, 1983; Thomas & Anderson, 1998) and that social support produces greater identification with an organization (Eisenberger, Huntington, Hutchinson & Sowa, 1986). On balance, we can tentatively conclude that the benefits of social support on turnover are particularly important for organizational newcomers.

College Settings, Social Support, and First-Year Departure

Research on first-year college student retention highlights the role of early social support experiences. This may be useful when considering the effects of social support relative to recruits completing their military training.

Traditional college students, those 18–24 years old, are age peers to most military recruits. And, although quite different from early experiences as a military recruit, many students find adjustment to college difficult or impossible. First-year departure from colleges is substantially higher than departure from military training, varying from 24 percent of full-time students at 4-year private institutions to 54 percent of all entrants at 2-year public institutions (Tinto, 1993).

Like military training, beginning college requires young people to adjust to a new and often unfamiliar environment. Social isolation, including inability to adapt to forms of association that differ from high school peer groups and first-time separation from family, often leads to departure (Christie & Dinham, 1991). Students lacking experience with other life transitions often have not developed the self-efficacy to adapt, and are therefore likely to need more social support in an unfamiliar environment like college or military training (Bandura, 1977). Negative or limited interaction with peers, especially one's roommate, is a particularly important element in voluntary departure (Moffatt, 1989).

Social support is linked directly to persistence in higher education in only one study, that by Wilcox, Winn, and Fyvie-Gauld (2005). However, research has linked social support to adjustment (Robbins, Lese, & Herrick, 1993) and to academic achievement (DeBerard, Spielmans, & Julka, 2004). Social support, particularly among peers on campus, is regarded as a potential buffer of stress in adjustment to the first year of college (Thomas, 2002; DeBerard et. al., 2004; Wilcox et al., 2005), as well as directly affecting well-being (Mackie, 1998). Coultrona, Cole, Colangelo, Assouline, and Russell (1994) showed parental support is positively related to college achievement, although

Wilcox et al. (2005) noted that parental support is insufficient without other forms of social support. This is particularly true for students who are among the first in their families or home social communities to go to college.

Research by Wilcox et al. (2005) most clearly separated social support from other factors affecting college retention. In that qualitative study, 34 University of Brighton students studying criminology, sociology, social policy, and applied psychology were interviewed during the summer term after their first year. The 22 students who completed the year were interviewed on campus; the 12 students who had withdrawn were interviewed by telephone. Transcripts of the 45-minute to 1-hour guided interviews were analyzed using the constant comparative method of grounded theory (Strauss & Corbin, 1998).

The researchers noted that three themes emerged for students who withdrew: social support, academic, and material factors. The relevant factors related to social support were difficulties in making compatible friends and accommodations. Retention was highest for students who made friends very early in their university experience, including in their residences, while still relying on the support of family and friends from home. Within a few weeks, home support became a background factor relative to the more critical factor of supportive friends and advisors at the university. Students who failed to make compatible friends early on or who spent most of their time with former friends and significant others outside the university, were more likely to feel socially isolated at the university and, as a result, to leave.

Overview of the Relationship Between Social Support and Turnover

The accumulated research literature generally supports a negative relationship between social support (typically measured as perceptions of emotional support) and turnover (typically measured as intent to leave). In other words, individuals who report high levels of perceived emotional support typically report lower intentions to leave their organizations. More specifically, we can, at least tentatively, conclude that (1) emotional support seems to be most important among the various *forms* of support, (2) supervisory support may be most important among the various *sources* of support, (3) social support may be particularly important in times of high stress, and (4) social support is particularly important for organizational newcomers.

Social Support Literature Relative to the Military

Findings on the beneficial effects of social support hold well across diverse types of organizations. However, the research is virtually exclusively on civilian work organizations, while the military services in general—and the Navy in particular—possess features not common to most work organizations.

The military profession is characterized by a unique set of demands including frequent relocation, family separation, interference with civilian spouses' careers, and physical risk to service members on duty. There is no other civilian occupation that is as demanding of its employees as the military (Segal, 1986; Segal & Segal, 1993b). Service

members and their families relocate more often and move farther than civilian workers in the U.S. population. According to the U.S. Census data, in 2000–2001, more than twice as many service members relocated as did their civilian counterparts (37%of service members; 15% of civilians). Further, 18 percent of service members relocated to another state, compared with only 2 percent of employed civilians (Segal & Segal, 2004).

Some features of military service potentially point to *greater* benefits from or greater need for social support than in civilian occupations. For example, frequent and prolonged separations expose military members and their families to higher risks of psychological distress, conditions in which social support appears to be particularly beneficial.

Isolation and boredom in the field adversely affect deployed soldiers' psychological well-being (Harris & Segal, 1985; Segal & Segal, 1993a). These characteristics interfere with service members' and families' social networks, and consequentially deprive them of social support resources that are normally available to their civilian counterparts.

However, few studies have examined social support in military settings. The literature that exists generally indicates that social support has the same types of beneficial consequences in the military as it does in civilian occupations. During World War II, spatial and social separations from kin caused psychological burdens to soldiers and their families (Campbell, 1984). As a result, the U.S. military strongly encouraged soldiers and kin to communicate, mostly through surface mail. These communications, a form of social support, played an important role in maintaining troop morale (Litoff & Smith, 1990; Stouffer, Lumsdaine & Lumsdaine, 1949). It also reduced boredom among soldiers in foxholes (Applewhite & Segal, 1991). Put simply, informal support from family members was organizationally facilitated in the U.S. military and assisted in soldiers' coping with the rigors of military life.

Early military social scientists also found that the immediate primary group played an important role in maintaining unit cohesion (Shils & Janowitz, 1948; Stouffer Lumsdaine, & Lumsdaine, 1949). On the battlefield, opportunities to maintain primary ties based on kinship are likely to diminish and the needs for "substitute" primary ties with unit members increases. From a social support perspective, this can be viewed as a shift in one's available social support network due to isolation from the original support network.

Though the military research outlined above focuses on social support in the context of prolonged and frequent separations due to deployment, unaccompanied assignments, sea duty, and training, little research has addressed issues directly relevant to social support and turnover among personnel, especially new recruits, who have not experienced long-term separation. One exception is Gruber (2004), who carried out a study of successful completion of military training. She analyzed the effectiveness of three social psychological resources (social support, mattering, and self-efficacy) in insulating soldiers from stress, illness, and injury while undergoing the Special Forces Assessment and Selection (SFAS) process and in contributing to their graduation from SFAS. A modified version of the Social Support Questionnaire developed by Sarason et al. (1983) was administered to 380 male soldiers who had qualified for SFAS. Gruber found a cumulative index of the social psychological resources was not related to stress,

or to number or severity of illnesses or injuries during the SFAS process. However, absence of such resources significantly predicted voluntary withdrawal from the program.

Other work that has explicitly addressed social support in military settings includes a study by Parker (1998), who found that first-term enlisted Army soldiers who perceived Army support for their families had higher reenlistment intentions than those who did not perceive support. This effect was moderated by job performance, with the relationship being significantly stronger for high-performing soldiers.

Other work is suggestive of social support having positive effects on retention in the military. For example, a great deal of research shows that spouse's support for the service member to stay in the military and family members' satisfaction with military life affect the service member's career intentions (Coolbaugh & Rosenthal, 1992; Croan, LeVine, & Blankenship, 1991; Etheridge, 1989; Lakhani & Hoover, 1995; Orthner, 1990; Rosen & Durand, 1995). This effect has also been found for reservists (Kirby & Naftel, 2000; Lakhani, 1995). Even single service members' perception of their partner's support in making a career in the military has a strong positive effect on their retention intentions (Orthner, Bowen, Zimmerman, & Short, 1992). Soldier and spouse perception of unit leaders' support for families is positively related to affective commitment to the military and readiness (Bourg & Segal, 1999; Segal & Harris, 1993).

In sum, the limited research on the relationship between social support and turnover in the military indicates that social support likely produces positive outcomes of social support on reduced turnover. Moreover, various features of life in the military indicate that social support may be particularly important for military personnel.

Conclusions Drawn from the Literature

There are three firm and four tentative conclusions that can be made based on the accumulated research literature.

Firm conclusions

1. Higher social support is associated with positive outcomes on numerous mental health measures.
2. Individuals who perceive that they receive high levels of emotional support express lower turnover intentions than do individuals who perceive low levels of social support.
3. Social support is particularly valuable for individuals in environments of high stress.

Tentative conclusions

1. Social support appears to be particularly important for individuals at early stages in their organizational careers.
2. Among the various *types* of social support, emotional support may be the most important in affecting turnover intentions.

3. Among the various *sources* of support, supervisory support may be the most important in affecting turnover intentions.
4. Social support may be particularly important to individuals in military settings.

Results

Social Support as Measured in First Watch Surveys

The measure of social support used in this study was taken from scales developed by Foster, Caplan, and Howe (1997) and Abby, Abramis, and Caplan (1985). These scales measure perceived social support and social undermining in conflict situations. The items from these two scales were used as the basis of two 6-item scales that examined both support and its counterpart, social undermining. The questions making up this scale are presented in Table 1 and ask each respondent to evaluate each item relative to: "Your Family," "Your Friends," "Your Spouse Boy/Girlfriend" (for New Sailor and RTC Graduate Surveys), "Your Recruit Division Commander" and "Your Fellow Recruits" (for RTC Graduate Surveys). The response scale for each of the items included in this scale ranged from 1 = "Not at all" to 5= "All the time."

Table 1
Items included on the social support and social undermining scales

How much does/did (your family; your friends; your boy/girlfriend; your RDC; your fellow recruits)…	
Social Support	**Social Undermining**
Talk with you when you're upset?	Say things that make you feel bad?
Help you understand and sort things out?	Act as if they don't like you?
Say things that make you feel better?	Make your life difficult?
Make you feel that you can rely on him/her?	Get on your nerves?
Listen to you when you need to talk?	Criticize you?
Encourage you to do your best?	Make you feel unwanted?

This combination of both social support and social undermining across three personal referents (for the New Sailor survey), and five social referents (for the RTC Graduate survey), resulted in 16 scales overall. The items for these scales were factor analyzed and resulted in one factor for each scale, accounting for between 50 and 79 percent of the variance. Measures of internal consistency for each of these 16 scales resulted in alpha coefficients that ranged between .82 and .94.

Relationships Between Socio-Demographic Categories and Social Support

As specified in the literature review above, social support is characterized by complex relationships with various outcome measures, and positive social support is linked to multiple beneficial (personal and organizational) outcomes. For this reason, even in cases when social support is not directly linked to retention, it is important to understand how different demographic groups vary in their perceptions of the support they receive. Thus our analyses began with an examination of how various socio-demographic groups differ in perceptions of various types of support.

Bivariate Analyses

Bivariate analyses were used to identify significant baseline differences in social support from family, social support from friends, social support from significant others, and support within various socio-demographic categories. These results are based on First Watch New Sailor survey data.

Table 2 shows mean differences in social support for men and women and the results of independent sample *t*-tests on these differences.

Table 2
Gender difference in social support

	Gender	N	Mean	SD	*p*
Support from Family	Male	28,044	3.76	0.963	.000*
	Female	5,494	3.86	1.005	
Support from Friends	Male	2,4904	3.57	0.949	.000*
	Female	5,040	4.00	0.853	
Support from Significant Others	Male	14,246	4.37	0.771	.000*
	Female	2,859	4.45	0.689	

* p < .001

Women entering recruit training, not controlling for other socio-demographic characteristics, indicated significantly higher levels of social support than did men. This relationship held across all forms of social support: support from family, support from friends, support from significant others, and overall social support.

Table 3 shows mean levels of social support by race and ethnicity. Table 3 displays results of adjusted bivariate mean difference tests on race and ethnicity across types of social support. Because the multiple categories of the race/ethnicity variable allow a large number of comparisons, Table 3 reports only significant differences.

Table 3
Mean levels of social support by race and ethnicity

		N	Mean (rank)	SD
Support from Family	White	19,336	(2) 3.79	0.951
	Black	5,281	(3) 3.79	1.001
	Hispanic	5,339	(1) 3.81	0.968
	Asian	1,440	(5) 3.61	1.013
	Native American and Other	2,757	(4) 3.70	1.015
	Total	34,153	3.78	0.970
Support from Friends	White	17,559	(3) 3.63	0.932
	Black	4,423	(2) 3.68	0.992
	Hispanic	4,694	(1) 3.69	0.953
	Asian	1,309	(5) 3.61	0.945
	Native American and Other	2,485	(4) 3.63	0.956
	Total	30,470	3.65	0.947
Support from Significant Others	White	9,296	(2) 4.41	0.735
	Black	3,105	(5) 4.29	0.821
	Hispanic	2,867	(1) 4.41	0.729
	Asian	780	(4) 4.33	0.770
	Native American and Other	1,406	(3) 4.34	0.800
	Total	17,454	4.38	0.759

Because respondents could choose multiple categories of racial/ethnic identity, no further tests could be performed on these data. However, based on the descriptive statistics there do not seem to be any reliable pattern of differences in social support across racial/ethnic categories.

Table 4 displays mean levels of social support and the results of *t*-tests by prior employment status.

Table 4
Difference in social support by prior employment status

	Unemployment status	N	Mean	SD	*p*
Support from Family	Employed or in school	28,569	3.78	.965	.000*
	Unemployed	5,778	3.76	.998	
Support from Friends	Employed or in school	25,613	3.65	.942	.000*
	Unemployed	5,022	3.62	.972	
Support from Significant Others	Employed or in school	14,935	4.39	.749	.000*
	Unemployed	2,608	4.33	.816	

* p < .001

Formerly unemployed recruits (those who did not attend school or hold a job before joining the Navy) reported significantly lower levels of all three types of social support than did recruits who were previously employed or attending school.

Table 5 shows mean levels of support by highest education level completed and overall one-way independent groups Analyses of Variance (ANOVA). Table 6 displays the result of significance tests on types of social support across levels of education.

Table 5
ANOVA result for social support by education level

	Education (years)	N	Mean	SD	*p*
Support from Family	10 or less	890	3.70	1.052	.006*
	11	980	3.71	1.011	
	12	24,196	3.78	.971	
	13-16 (college/tech)	7,174	3.78	.958	
	BA or higher	1,024	3.82	.925	
	Total	34,264	3.78	.971	
Support from Friends	10 or less	751	3.52	1.025	.005*
	11	849	3.61	.965	
	12	21,583	3.65	.950	
	13-16 (college/tech)	6,434	3.65	.930	
	BA or higher	951	3.65	.906	
	Total	30,568	3.65	.947	
Support from Significant Others	10 or less	464	4.40	.821	.647
	11	540	4.38	.768	
	12	12,476	4.38	.758	
	13-16 (college/tech)	3,501	4.37	.755	
	BA or above	522	4.35	.762	
	Total	17,503	4.38	.760	

* $p < .01$

Table 6
Multiple comparisons test results for social support by education level (Tukey HSD)

Group A		Group B	Difference (A-B)	*p*
Social Support from Family				
10 or less	<	BA or above	-.129	.031*
11	<	BA or above	.118	.049*
Social Support from Friends				
10 or less	<	12 years	-.128	.002**
10 or less	<	13-16 (college or technical school)	-.131	.003**
10 or less	<	BA or above	-.130	.040*
Social Support from Significant Others and Overall Social Support				
NA, overall ANOVAs were not significant				

Although most comparisons are not significant, findings are generally in the direction of higher levels of schooling being associated with higher reported social support.

Table 7 displays mean levels of social support across categories of marital status. Table 8 shows the results of bivariate mean difference tests on social support across categories of marital status.

Table 7
ANOVA result for social support by different marital statuses

		N	Mean	SD	*p*
Support from Family	Single never married	31,283	3.78	.971	.781
	Married	1,903	3.78	.968	
	Separated or divorced	283	3.74	1.032	
	Total	33,469	3.78	.971	
Support from Friends	Single never married	28,049	3.66	.945	.000*
	Married	1,580	3.49	.980	
	Separated or divorced	250	3.65	.911	
	Total	29,879	3.65	.947	
Support from Significant Others	Single never married	14,951	4.36	.763	.000*
	Married	2,003	4.52	.695	
	Separated or divorced	118	4.18	.974	
	Total	17,072	4.38	.758	

* p < .001

Table 8
Multiple comparisons test results for social support by marital status (Tukey HSD)

Group A		Group B	Difference (A-B)	*p*
Social Support from Family				
N/A				
Social Support from Friends				
Single never married	>	Married	.170	.000**
Married	<	Legally separated or divorced	-.167	.025*
Social Support from Significant Others				
Single never married	<	Married	-.154	.000**
Single never married	>	Legally separated or divorced	.184	.023*
Married	>	Legally separated or divorced	.338	.000**

* p < .05; ** p < .01

Results overall show higher levels of social support among the married than among singles, separated, or divorced. Married are more likely to receive support from significant others. Those never married, separated, or divorced, however, report higher social support from friends than do those who are married.

Table 9 displays mean differences and the results of significance tests on bivariate relationships between the presence of children and forms of social support.

Table 9
Difference in social support by the presence of children

	Parental status	N	Mean	SD	*p*
Support from Family	No children	32,471	3.78	.970	.218
	Have children	1,876	3.75	.985	
Support from Friends	No children	29,096	3.65	.943	.000*
	Have children	1,539	3.49	1.003	
Support from Significant Others	No children	15,957	4.38	.752	.000*
	Have children	1,586	4.35	.828	

* < .001

These results indicate that recruits without children report significantly more social support from friends and from significant others than do recruits with children.

Summary of Bivariate Comparisons

Bivariate analyses revealed some consistent findings, but generally indicated different relationships across different types of social support. The most consistent significant findings were that women reported higher levels of all types of support than men and that the previously unemployed reported lower levels of all types of social support than those previously employed or in school. Further, there seemed to be no reliable mean differences across levels of social support received between different racial/ethnic groups. We also found that recruits who are married report higher levels of social support from significant others than the unmarried. In contrast, the presence of children is associated with lower levels of social support. And, bivariate analyses generally showed higher levels of education being associated with more social support.

Summary of Social Support Findings

Bivariate analyses and significance tests on the base relationship between various socio-demographic categories and social support were performed. Our analyses allow for the following statements:

- Women entering recruit training report significantly higher levels of all forms of social support than do men.
- Those unemployed before beginning recruit training report lower levels of social support than do those who are employed or in school before entering training.
- Singles and those without children report significantly more social support from friends than do those who are married or who have children.
- Those who are married and those without children report significantly more social support from significant others than do those who are single or those who have children.

Relationships Between Social Support RTC Graduation and Related (non-socioeconomic) Support Variables

We ran several logistic regression models to assess relationships between support and graduation from Navy Recruit Training. The first regressed graduation outcomes on eight items that assessed the Delayed Entry Program (DEP) experience. The next regressed graduation on variables related to support from recruiter. A third regressed graduation outcomes on both DEP and recruiter variables. Finally, a full model assessed the effects of the DEP experience, support from recruiter, and social support (as mentioned above) on retention.

Graduation regressed on variables related to the DEP experience

Table 10 presents results of logistic regression analyses including graduation from Navy Recruit Training regressed on variables related to the DEP experience.

Table 10
Logistic regression of graduation as a function of DEP experiences

	β	Wald Chi-Square	p	Odds Ratio	95% Confidence Interval for Odds Ratio	
					Lower	Upper
DEP Experience						
Satisfaction with classifier	.089	4.630*	.031	1.093	1.008	1.185
Ave. length of DEP meetings	.026	.443	.506	1.026	.951	1.107
Information accuracy in DEP	.064	2.139	.144	1.066	.978	1.161
# of DEP meetings attended	.158	20.506***	<.001	1.171	1.094	1.254
Satisfaction with # of DEP meetings	.202	6.744**	.009	1.223	1.051	1.425
Satisfaction with length of meetings	.017	.028	.868	1.017	.832	1.244
Progress on PQS in DEP	.034	.903	.342	1.034	.965	1.109
Extent informed about jobs	.002	.003	.958	1.002	.929	1.080
Constant	.663	6.357	.012	2.052		

$p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).
Note: N = 11,830

A test of the model in Table 10 against a constant-only model produces a significant difference ($\chi^2 = 62.360$, $p < .001$), indicating that variables assessing support in the DEP experience predict RTC graduation. Among items in the model, satisfaction with classifier had a significant positive relationship with graduation, indicating that higher satisfaction with classifier upon entering RTC was associated with a higher likelihood of graduation. Number of DEP meetings attended showed a strong association with graduation. For example, recruits who attended 7–9 meetings were 20 percent more likely to complete RTC than were those who attended 4–6 meetings. And, recruits who felt that the number of DEP meetings were about right were significantly more likely to complete RTC than were those who thought the number of meetings was too few or too many.

Graduation Regressed on Variables Related to Support from Recruiter

Table 11 presents results of a logistic analysis regressing RTC graduation on Navy Recruit Training variables assessing support from recruiters.

Table 11
Logistic regression of graduation as a function of support from recruiter

	B	Wald Chi-Square	*p*	Odds Ratio	95% Confidence Interval for Odds Ratio	
					Lower	Upper
Frequency of recruiter contact	-.065	3.029†	.082	.937	.871	1.008
Satisfaction with frequency of recruiter contact	.200	5.504*	.019	1.221	1.033	1.442
Responsibilities explained	.230	3.157†	.076	1.258	.977	1.621
Satisfaction with recruiter	.113	5.345*	.021	1.120	1.017	1.232
Constant	1.621	28.744	<.001	5.057		

† $p < .10$; * $p < .05$ (two-tailed tests). Note: N = 11,830

A test of the model in Table 11 against a constant-only model produces a significant difference ($\chi^2 = 21.912$, $p < .001$), indicating that variables assessing support from recruiters predict RTC graduation. Among individual items in the model, satisfaction with frequency of contact with recruiter and satisfaction with recruiter significantly predict graduation. Respondents who felt that the number of contacts with their recruiter was about right were more likely to graduate than those who felt the number was too few or too many, and increased satisfaction with recruiter was associated with a higher likelihood of graduation.

Graduation Regressed on Support from Recruiter and DEP Experience

Combining support from recruiter and DEP experience in predicting graduation produces a model that predicts better than the model with only variables related to support from recruiter ($\chi^2 = 50.226$, $p < .001$) but that has a new pattern of significant results. The model does produce an identical pattern of significant results as the model with DEP experience variables only (see Table 12). Results are markedly different, however, for variables related to support from recruiter. The effects of two variables that were significant in the model with only support from recruiter variables (satisfaction with frequency of recruiter contact and satisfaction with recruiter) disappear in the combined model. In other words, respondents' experience in the DEP entirely explained the effects of satisfaction with recruiter and satisfaction with frequency of contact with recruiter. Given that recruits typically maintain contact with recruiters during the DEP experience, attending DEP meetings likely co-varies with elements of experience with recruiters.

Table 12
Graduation regressed on support from recruiter and DEP Experiences

	β	Wald Chi-Square	p	Odds Ratio	95% Confidence Interval for Odds Ratio	
					Lower	Upper
Support from Recruiter						
Frequency of recruiter contact	-.101	7.358**	.007	.904	.840	.972
Satisfaction with frequency of recruiter contact	.123	1.998	.158	1.131	.954	1.340
Responsibilities explained (=1)	.107	.666	.414	1.113	.860	1.441
Satisfaction with recruiter	.037	.406	.524	1.038	.926	1.162
DEP Experience						
Satisfaction with classifier	.083	3.854*	.050	1.087	1.000	1.181
Ave. length of DEP meetings	.027	.495	.482	1.028	.952	1.109
Information accuracy in DEP	.052	1.161	.281	1.053	.958	1.157
No. of DEP meetings attended	.162	21.551***	<.001	1.176	1.098	1.259
Satisfaction with number of DEP meetings	.192	5.920*	.015	1.211	1.038	1.414
Satisfaction with length of meetings	.009	.007	.933	1.009	.825	1.233
Progress on PQS in DEP	.039	1.184	.277	1.040	.969	1.116
Extent informed about jobs	-.004	.010	.920	.996	.923	1.075
Constant	.663	4.539	.033	1.941		

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests). Note: N = 11,830.

Although DEP experience explains some effects of support from recruiter, they have distinct effects on retention. Most noteworthy is that attending more DEP meetings is associated with a significantly higher likelihood of graduation but more frequent contact with recruiter is associated with a significantly lower likelihood of graduation (this effect of recruiter contact emerges in the combined model). In other words, independent of the effect of number of DEP meetings attended more frequent contact with recruiter is associated with a lower likelihood of graduation. For instance, a recruit who meets with his or her recruiter once a week or more is 20 percent more likely to leave the Navy than a recruit who meets with his or her recruiter once every two weeks. This effect may be due to recruits with doubts about their enlistment in the Navy meeting more frequently with their recruiters, than recruits without such doubts.

Social Support During Training for Those Who Graduated and Attrited

On New Sailor, Exit, and RTC Graduate surveys, respondents were asked identical questions on perceptions of social support that they received. Table 13 displays mean scores from each source of social support for these surveys. Because recruits had not yet begun training, the New Sailor Survey did not ask questions about support from Recruit Division Commanders (RDCs) or fellow recruits, and these cells are marked "N/A." Responses on the RTC Graduation Survey are only from persons who completed the RTC Graduate survey and who completed RTC training. Responses on the EXIT Survey are only from those who completed the Exit survey and who attrited during RTC training.

Table 13
Descriptive statistics of social support variables

	New Sailor Survey			RTC Graduation Survey			Exit Survey		
Variable	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**
Family	30,639	3.78	.970	20,767	3.83	1.065	730	3.57	1.302
Friends	27,368	3.65	.946	15,859	3.58	1.188	538	3.34	1.407
Significant Others	15,655	4.39	.756	11,950	3.96	1.168	480	3.72	1.391
RDC	N/A	N/A	N/A	26,129	3.08	.996	984	2.45	1.126
Fellow Recruits	N/A	N/A	N/A	25,955	2.60	1.053	964	2.99	1.224

Across all surveys, respondents identified significant others as their strongest source of social support. Noteworthy, however, is that respondents perceived social support from significant others weakens during training, with lower mean values on this type of social support on both the RTC Graduation Survey and the Exit Survey than on the New Sailor Survey. The most striking mean differences across the surveys are in comparing perceived support from RDCs and fellow recruits between those who graduated and those who attrited. The mean score on the perceived support scale from RDCs was much higher for RTC graduates (3.08) than for those who attrited (2.45). Those who attrited, on the other hand, perceived higher support from fellow recruits (2.99) than did those who graduated (2.60). Also noteworthy is that all respondents, both those who graduated and those who attrited, perceived low levels of support from fellow recruits compared to most other categories of support.

Table 14 shows results of *t*-tests on the differences between those who graduated and those who attrited in the support they received from various sources (from Exit and RTC Graduate surveys).

Table 14
***t*-test of social support between RTC graduates and attrites**

		N	Mean	SD	*p*
Family	Attrites	730	3.57	1.30	<.001*
	RTC graduates	20,767	3.83	1.07	
Friends	Attrites	538	3.34	1.41	<.001*
	RTC graduates	15,859	3.58	1.19	
Significant Others	Attrites	480	3.72	1.39	<.001*
	RTC graduates	11,950	3.96	1.17	
RDC	Attrites	984	2.45	1.13	<.001*
	RTC graduates	26,129	3.08	1.00	
Fellow Recruits	Attrites	964	2.99	1.22	<.001*
	RTC graduates	25,955	2.60	1.05	

* $p < .001$

RTC graduates perceived significantly higher levels of social support during training from family, friends, significant others, and RDCs than did those who attrited. Those who attrited perceived significantly higher support from fellow recruits than did those who graduated.

In sum, mean differences in social support both before and after training reveal distinct patterns for those who graduated and those who attrited. Although significant others remain the strongest source of social support for both groups, those who graduated perceived more support from all categories except fellow recruits than did those who attrited. The largest difference was in support from RDCs, with those who graduated perceiving much higher support from RDCs than those who attrited. Support from fellow recruits, although weak relative to other sources for both groups, was significantly higher for those who attrited than for those who graduated.

Social Influences on Retention Decision for Graduates and Attrites

Both the RTC Graduation Survey and the Exit Survey asked respondents the extent to which a number of different people encouraged them to remain in or leave the Navy. Respondents had three response options for each item, indicating that encouragement had been to leave, neutral, or to stay. Respondents answered the question in regards to each of the following seven categories: RDC, fellow recruits, spouses, fiancé or boyfriend/girlfriend, parents, other relatives or close friends, and chaplains.

Figure 1 displays the percentage of respondents who indicated leave, neutral, or stay as the primary influence from each of the seven categories of relationships. This data is only on those who graduated from RTC training.

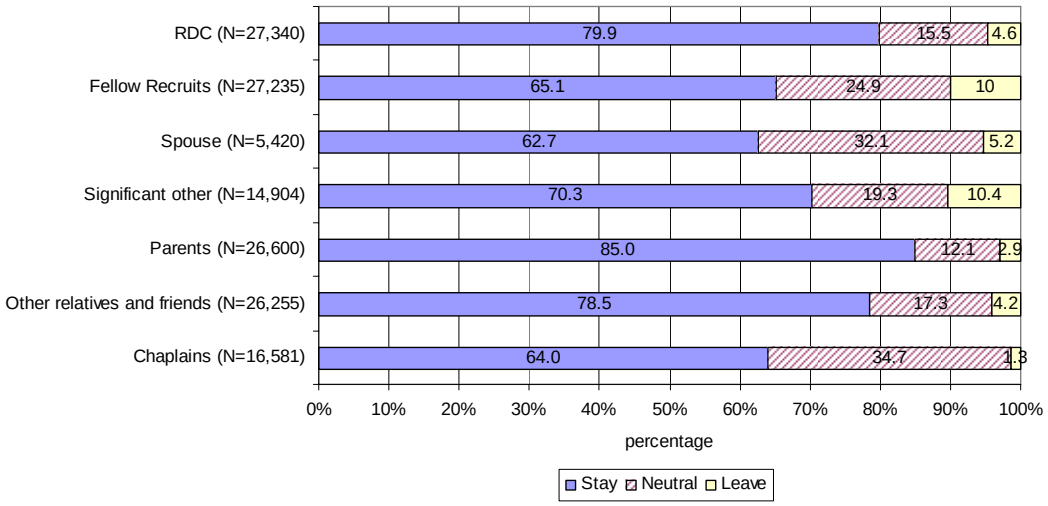

Figure 1. Influence on retention decision among the RTC graduates

Among those who graduated, respondents generally saw persons from all categories as encouraging them to stay in the Navy. Parents, RDCs, and other relatives and friends were particularly identified as encouraging recruits to stay. Although those who graduated from RTC training did not identify any groups as strongly influencing them to leave the Navy, fellow recruits and significant others did show a greater influence toward encouragement to leave the Navy than did other groups.

Figure 2 shows responses on the same items as displayed in Figure 1, but for those who attrited from training.

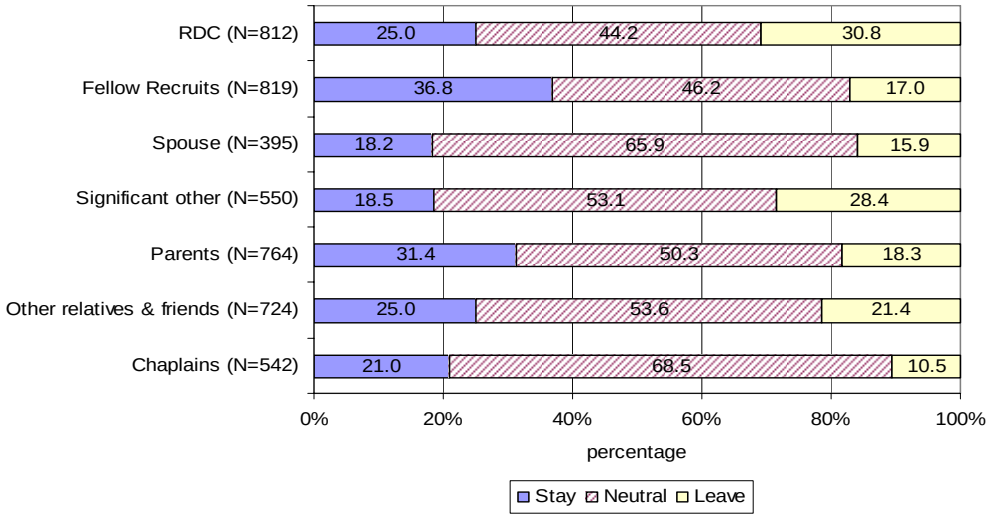

Figure 2. Influence on retention decision among those who attrited.

Results for those who attrited from training are strikingly different than results for RTC graduates. While graduates saw persons in all categories of relationships as encouraging them to stay in the Navy, those who attrited did not see any categories as primarily influencing them to stay. About 80 percent of graduates, for example, indicated that their RDCs encouraged them to stay in the Navy, while only 25 percent of those who attrited felt encouragement to stay from their RDCs. It appears that those who attrited perceive significant others and RDCs in particular as influencing them to leave the Navy. For example, recruits who attrited from training were about three times more likely to say that their significant others encouraged them to leave than were recruits who graduated from training. Those who attrited were nearly seven times more likely than those who graduated to indicate that their RDCs encouraged them to leave. Also noteworthy is that although those who graduated identified fellow recruits as encouraging them to stay relatively less than persons in other categories, those who attrited identified fellow recruits as the group most encouraging them to remain in the Navy.

The data in Figures 1 and 2 show the extent to which those who graduated and attrited felt that persons in various categories encouraged them to stay in or leave the Navy. As a next step, we ran a logistic regression analysis to measure the effects of influence to stay or leave from various sources on retention. Table 15 displays the results of this analysis.

Table 15
Logistic regression estimates of the probability of retention as a function of those who influenced recruits' retention decision (N = 3,555)

					95% Confidence Interval for Odds Ratio	
	β	Wald Chi-Square	*p*	Odds Ratio	Lower	Upper
RDC	.941	57.514**	<.001	2.562	2.009	3.267
Fellow Recruits	-.171	1.656	.198	.846	.650	1.093
Spouse	-.235	1.449	.229	.790	.539	1.159
Fiancé or girl/boyfriend	.431	6.121*	.013	1.539	1.094	2.164
Parents	.583	12.847**	<.001	1.792	1.302	2.464
Other relatives or close friends	.365	4.579*	.032	1.441	1.031	2.014
Chaplains	.280	2.689	.101	1.323	.947	1.848
Constant	-2.807	82.630	<.001	0.060		

* $p < .05$; ** $p < .001$ (two-tailed tests).

A test of this model against a constant-only model is statistically significant (χ^2 [7, N = 3,555] = 394.240, $p < .001$), indicating that perceptions of stay or leave from these people reliably predicts RTC graduation. Cox and Snell R^2 for the model is .102, good for an analysis of this type.

Results are strongly and positively significant for parents and RDCs. If a recruit felt that his or her RDC encouraged staying in the Navy, the recruit became 2.5 times more likely to graduate. If a recruit felt that his or her parents encouraged staying, she or he became 1.8 times more likely to graduate. Non-spouse significant others and other relatives or close friends also produced significant results ($p < .05$). Respondents who felt encouragement to stay from either non-spouse significant others or other relatives and close friends were about 1.5 times more likely to graduate than were those who did not perceive such encouragement.

The Effects of Social Undermining

Most of the analyses on social relationships here and for other tasks have focused on how some recruits benefit from social support more than do others. Negative relationships, however, may be at least as important in attrition as the absence of positive relationships. For this reason, we also analyzed responses to questions on social undermining.

Table 16 displays mean values on social undermining in the New Sailor Survey, RTC Graduation Survey, and Exit Survey for each type of social relationship.

Table 16
Descriptive statistics of social undermining variables

	New Sailor Survey			RTC Graduation Survey			EXIT Survey		
Variable	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**
Family	28,018	1.80	.731	20,450	1.20	0.428	722	1.58	0.911
Friends	25,280	1.65	.582	15,549	1.22	0.403	530	1.49	0.818
Significant Others	14,018	1.54	.609	11,691	1.22	0.473	468	1.44	0.813
RDC	--	--	--	25,809	2.11	0.941	970	2.77	1.290
Fellow recruits	--	--	--	25,596	3.90	0.853	947	3.88	1.031

Both those who graduated and those who attrited perceived less social undermining from family, friends, and significant others after RTC training than they did before training began. Those who attrited, however, perceived more social undermining from family, friends, and significant others than did those who graduated. Both those who graduated and those who attrited perceived higher levels of social undermining from RDCs, and especially from fellow recruits, than from family, friends, and significant

others. And, although those who attrited perceived more undermining from RDCs than those who graduated, there was essentially no difference between those who graduated and those who attrited in their perceptions of undermining from fellow recruits.

Table 17 shows *t*-test results on differences in social undermining across types of social relationships for those who graduated compared to those who attrited.

Table 17
***t*-test of social undermining during RTC between graduates and attrites**

		N	Mean	SD	*p*
Family	Attrited	722	1.58	0.91	<.001*
	RTC graduates	20,450	1.20	0.43	
Friends	Attrited	530	1.49	0.82	<.001*
	RTC graduates	15,549	1.22	0.40	
Significant Others	Attrited	468	1.44	0.81	<.001*
	RTC graduates	11,691	1.22	0.47	
RDC	Attrited	970	2.77	1.29	<.001*
	RTC graduates	25,809	2.11	0.94	
Fellow Recruits	Attrited	947	3.88	1.03	.444
	RTC graduates	25,596	3.90	0.85	

* $p < .001$.

These results show that those who attrited from training perceived significantly more social undermining from family, friends, significant others, and RDCs than did those who graduated. Relationships with RDCs again emerge in these analyses as particularly important. Respondents viewed RDCs as undermining in their behaviors relative to those in most other relationships, and the difference in undermining scores for RDCs between those who graduated and those who attrited is the largest across all comparisons.

Of particular interest in the findings on social undermining is the scores on undermining from fellow recruits for both those who graduated and those who attrited. The mean values on the scale (3.90 for those who graduated, 3.88 for those who attrited) indicate that respondents on average felt that fellow recruits undermined them socially much of the time.

Changes in Social Support Over Time

We carried out a number of analyses to examine how social support changed over time. Figures 3 through 5 show levels of social support from family, friends, and significant others and how they changed over time for those who graduated compared to those who attrited.[2]

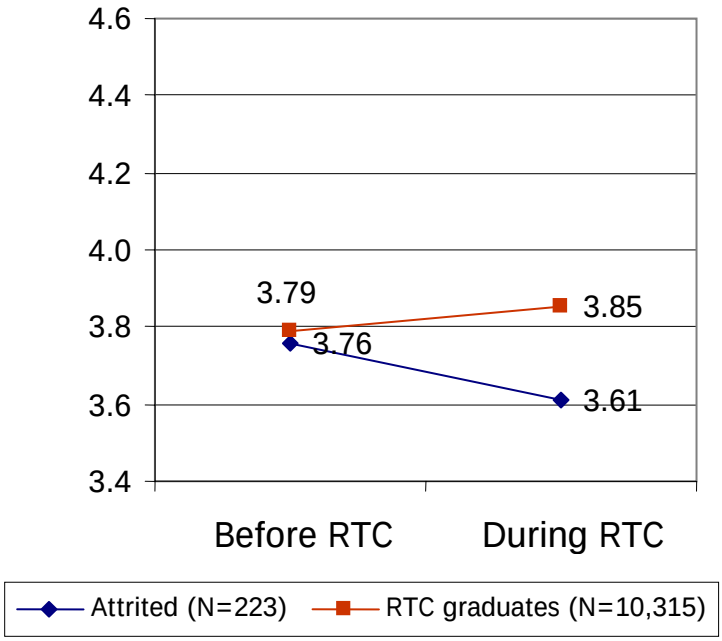

Figure 3. Family social support before and during RTC.

[2] Because questions on support from RDCs and fellow recruits could not be asked on the New Sailor Survey, we cannot examine how scores on these variables changed over time.

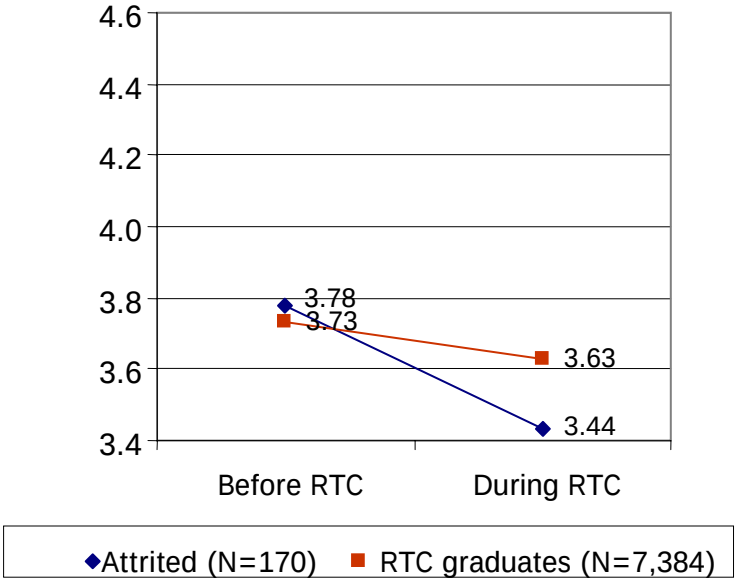

Figure 4. Friends Social Support before and during RTC.

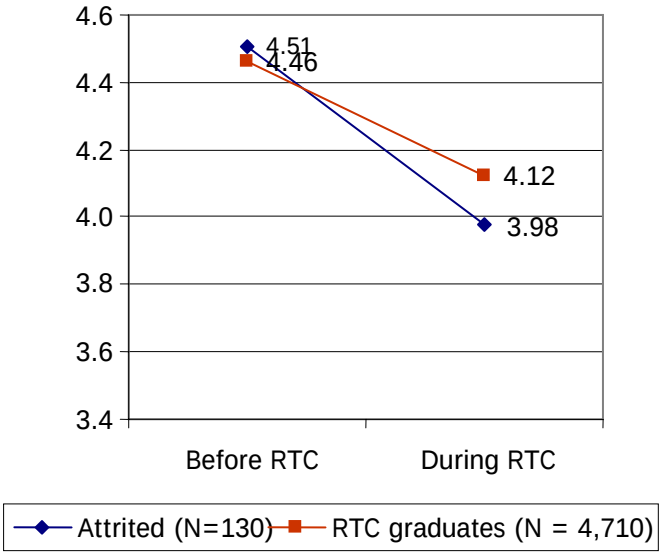

Figure 5. Significant others social support before and during RTC.

Perceptions of social support generally declined during training, with the only exception being an increase in perceived support from family among those who graduated. For all sources of support, those who attrited perceived a greater drop in support during training than did those who graduated. Further, although mean differences for each category of social support were very similar on the New Sailor Survey for those who graduated and those who attrited (those who attrited, in fact, were higher on two of the three scales than those who graduated), those who attrited clearly perceived lower support in the Exit survey from all sources than did those who graduated (RTC Graduate survey).

Regression Analyses

We ran sequential logistic regression analyses in order to asses the effects of social support and social undermining on retention. The variables for social support and social undermining that we used in these analyses are displayed in Table 18.[3]

Table 18
Descriptive statistics of social support and social undermining scales for logistic regression analysis (N = 9,126)

	Mean	SD
Social Support from Family	3.81	1.107
Social Support from Friends	3.51	1.239
Social Support from Significant Others	3.89	1.228
Social Support from RDC	3.06	1.028
Social Support from Fellow Recruits	2.57	1.068
Social Undermining from Family	1.22	0.468
Social Undermining from Friends	1.22	0.424
Social Undermining from Significant Others	1.23	0.492
Social Undermining from RDC	2.11	0.981
Social Undermining from Fellow Recruits	3.97	0.851

Table 19 presents the results of two multivariate logistic regression models that examine the probability of retention among recruits as a function of social support and social undermining from various sources.

[3] In analyses not reported here, we found no strong correlations in any combinations of these variables involving social support scales compared to social undermining scales. We did find high correlations among various combinations of social support from family, friends, and significant others. We did not exclude these variables because this study is exploratory and because these variables were not highly correlated with each other in the New Sailor Survey. Their high inter-correlations in data from the RTC Graduation Survey and the Exit Survey are likely due to the fact that recruits were equally limited in their contact with friends, family, and significant others during training.

Table 19
Logistic regression estimates of the probability of retention (N = 9,126)

	Parameter Estimate (Standard Error)			
Independent Variable	**Model 1**		**Model 2**	
Social Support				
From family	.172	(.071)*	.051	(.074)
From friends	-.141	(.069)*	-.034	(.070)
From significant others	.027	(.055)	.111	(.057)
From RDC	.464	(.067)**	.264	(.074)***
From fellow recruits	-.188	(.059)**	-.348	(.064)***
Social Undermining				
From family			-.553	(.112)***
From friends			-.526	(.140)***
From significant others			-.115	(.112)
From RDC			-.487	(.060)***
From Fellow recruits			-.533	(.080)***
Constant	2.170		7.782	
-2 log likelihood	2896.909		2676.394	
Degrees of freedom	5		10	
Pseudo R^2	.015		.038	

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

Model 1 includes only sources of social support in predicting graduation. A test of Model 1 in Table 19 against a constant-only model is statistically significant (χ^2 [5, N = 9,126] = 136.3, $p < .001$), indicating that social support reliably predicts graduation. Cox and Snell *R* square is .015. Model 2 introduces social undermining variables. A test of Model 2 against Model 1 is also significant (χ^2 [10, N = 9,126] = 220.515, $p < .001$), indicating that Model 2 provides improved prediction in comparison to Model 1.

Model 1 shows significant results for each source of social support in predicting graduation. Higher support from family and RDCs is associated with a higher likelihood of graduation. Higher support from fellow recruits and friends, in contrast, is associated with a lower likelihood of graduation.

The introduction of social undermining variables in Model 2 causes the significant effects for social support from family and friends to disappear. The effects of support from RDCs and fellow recruits, however, remain strong.

Among social undermining variables, higher social undermining from family, friends, RDCs, and fellow recruits, but not from significant others, were associated with lower likelihoods of graduation. These results overall indicate that social undermining plays as important a role in retention as does social support. Key variables that emerge from this analysis are relationships with RDCs and fellow recruits, relationships that may be more salient than others during training.

Summary

Results revealed several interesting items. Perceptions of social support among those who graduated and those who attrited are clearly distinct. Those who graduated perceived significantly higher social support from family, friends, significant others, and RDCs during training than did those who attrited. The difference was especially large in perceived support from RDCs. In contrast, those who attrited perceived higher support from fellow recruits than did those who graduated. Overall, significant others remained the strongest source of support for recruits from the beginning and throughout training, but the relative strength of support from significant others did decrease over time.

An analysis of the roles that recruits saw others as playing in their decision to stay in or leave the Navy also revealed distinct patterns for those who graduated versus those who attrited. Graduates saw others as encouraging them to stay in the Navy while those who attrited viewed others as neutral, neither encouraging recruits to stay or to leave. Those who attrited from training were especially likely to see RDCs and significant others as encouraging them to leave the Navy. Encouragement to remain in the Navy by RDCs and parents were especially strongly associated with graduation.

Findings on social undermining showed it to be an important determinant of retention. Respondents who perceived more social undermining from family, friends, significant others, and RDCs during training were more likely to attrite than those who perceived less undermining. A striking finding in the social undermining responses is the very high extent to which all respondents, both those who graduated and those who attrited, saw their fellow recruits as engaging in social undermining behaviors. Given the inconsistency between this finding and the mission of the Navy, this is an issue that may benefit from attention.

Regression analyses showed that perceptions of social undermining do predict graduation. Further, among sources of social support, RDC and fellow recruit support were significantly associated with graduation. The effects of these support variables, however, were in opposite directions, with higher support from RDCs being associated with higher graduation and higher support from fellow recruits being associated with lower graduation. This indicates that respondents may have relied on RDCs and fellow recruits for different purposes, seeking validation to remain in the Navy from RDCs and support for a decision to leave from fellow recruits.

In sum, those who graduated from training perceived significantly higher social support, showed smaller drops in perceptions of social support during training, and perceived significantly less social undermining than those who attrited. The importance of RDCs consistently emerged across the analyses reported here. Those who graduated perceived more support from RDCs and more encouragement to stay in the Navy from

RDCs than did those who attrited. Findings on fellow recruits also revealed patterns that deserve attention. Both those who graduated and those who attrited perceived high levels of social undermining from fellow recruits, and support from fellow recruits was associated with lower likelihoods of graduation, the opposite direction from every other source of social support.

Conclusions

Our review of the professional literature on social support allowed us to draw several conclusions about its general importance and its relationship to turnover. In particular, we noted that social support is associated with multiple positive outcomes and that individuals who perceive that they are supported express lower turnover intentions than those who perceive that they are not supported. We also noted that turnover intentions is an imperfect predictor of actual turnover and that data assessing the relationship between social support and actual turnover would be valuable. Additionally, we noted that research frequently fails to distinguish between sources of support, even though support from different sources may have differing effects on retention. The longitudinal data used in this report overcame these limitations by measuring perceptions of social support upon entering training and then actual graduation or attrition from training, as well as assessing support from various sources, using outcome measures of actual turnover.

Social Support, Attrition/Graduation, and the DEP

Recruits were on average satisfied with classifiers, with the length and frequencies of their DEP meetings, and with their recruiters. Although recruits were satisfied with support received in the DEP from Navy personnel upon entering training, this support did not necessarily translate to higher likelihood of RTC graduation. For example, more contact with recruiters was associated with high levels of satisfaction with recruiter but also with a lower likelihood of RTC graduation. This finding is consistent with our discussion in the review of the social support literature in which it was noted that more distressed individuals may be more likely to seek out social support and more likely to attrite.

One factor that did emerge as important from analyses of decisions related to join the Navy was the DEP experience. Recruits who attended DEP had better graduation prospects than did those who did not attend DEP, and increasing numbers of DEP meetings attended were associated with higher likelihoods of graduation. Here, consideration should be given to tailoring the DEP experience to the needs of the individual recruit. White, Harris, Eshwar and Mottern (2007) identified numerous recruit characteristics that might be used as the basis for a screening tool to identify those at greatest risk of RTC attrition. Once identified, these "at risk" individuals should receive recruit training commensurate with their individual needs, as much as is practical. This may include requiring such recruits to attend as many DEP meetings as possible and requirements at RTC for more individual instruction, with special attention paid to reducing the quantity of social undermining from RDCs and fellow recruits.

Support During Training, Decisions to Join, and RTC Attrition

Significant differences were found between those who graduated and those who attrited in perceptions of the support they received *during* training. Those who graduated perceived higher social support during training from virtually all sources than did those who attrited. The one exception was support from fellow recruits. Those who attrited perceived significantly higher support from fellow recruits during training than did those who graduated. Additionally, those who graduated from RTC reported that others in various groups encouraged them to stay in the Navy, while those who attrited reported support as more neutral. Also of note is that significant others emerged as the strongest source of social support in measures prior to training and continued to be the strongest source of support in measures of support during training.

Particular Importance of RDCs

In our review of the social support literature, we noted that among the various sources of support, supervisory support may be the most important in affecting turnover intentions. Our findings on the particular importance of RDCs bear out this observation. For example, encouragement to remain in the Navy was particularly strongly related to graduation, when the source of that encouragement came from the RDC. Further, those who attrited from training were especially likely to see RDCs as encouraging them to leave the Navy.

Social Undermining

Another variable not directly measuring social support, but clearly important in predicting graduation is social undermining. Recruits who perceived more social undermining from family, friends, significant others, and RDCs during training were less likely to graduate than were those who perceived less undermining. An issue that emerged in our social undermining analyses is that all respondents, both those who graduated and those who attrited, perceived high levels of social undermining behaviors from their fellow recruits.

Support During Training

Recruits answered questions on perceptions of social support prior to training and at termination (after either graduating or attriting) from training. We noted that on perceptions of social support upon entering training, only social support from significant others was significantly related to graduation in regression analyses, with more support from significant others being associated with lower likelihoods of graduation. This may indicate that those reporting high levels of social support from significant others may have particularly strong relationships with that source of social support and the strength of these relationships may undermine the recruit's resolve to finish training.

On measures of support during training, the two sources of social support that significantly predicted graduation in logistic regression analyses were support from RDCs and support from fellow recruits, but in opposite directions. Recruits who perceived more social support from RDCs were more likely to graduate than those who perceived less support, while those who perceived more support from fellow recruits were less likely to graduate. These findings indicate that recruits may rely on RDCs for validation to stay in the Navy and fellow recruits for support behind decisions to leave.

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